Panel Discussion (contd)

drinking water standard. The drinking water standard is set at a level that one adult in every 10,000 drinking it dies of a fatal cancer.

Remember, children are five to ten times more susceptible from the same dose. This is in the year 2040. And the red spreads.

This model shows that the pink area down here in the 300 Area, because of uranium, is spreading. The level of contamination entering the Columbia River in the near shore seeps in 2000, strontium 90 in the N-Area, over here, was 1,800 times the drinking water standard measured, according to DOE's annual groundwater monitoring record, near shore seeps.

Chromium is increasing. And the small scale actions that are being taken to try to control the chromium into the areas here are EPA's own Record of Decision is they are failing, they are not adequate. I shouldn't say they are failing. They are not adequate.

So, we know it's spreading, and I can put up the other slides. It's going to keep spreading into the river.

Panel Discussion (contd)

So, things got better for a period of time.

MR. DEE WILLIS: Gerry, describe this.

MR. GERRY POLLET: Oh. I'm sorry. This is the river running along here. I am very sorry I didn't do that. The Hanford Reach of the Columbia River runs here, this edge, for 50 miles. The last great natural spawning ground for Chinook salmon on the river. And of course much of it was designated the Hanford Reach National Monument.

And yet you've got seeps at 1,800 times the drinking water standard, you've got chromium at levels known to impair the development of the juvenile salmon coming up right where the fish are developing in the gravel beds.

MR. DEE WILLIS: Okay. Quick response from Dennis and let's go to the audience.

MR. DENNIS FAULK: Well, I am smart enough not to argue with Gerry, but again we are doing things to try to control that. We have active systems in place to try to take

care of the chromium.

The point I was trying to make, Gerry, is we have stopped a lot of the discharges.

MR. GERRY POLLET: Absolutely.

MR. DENNIS FAULK: It was actually about ten years ago. And it was again partly due to Heart of America getting those stopped. Yeah. They sued.

So, anyway, things are getting better. But that doesn't mean that we don't have a long ways to go. And again it's imperative that we do dispose of these wastes correctly for the long term.

MR. DEE WILLIS: Who has a question? Sir? If you would give us your name, I would appreciate it.

MR. GARY PROCTOR: Gary Proctor. The question is for Dennis.

What is the independence of the EPA and in relation to the DOE? If the EPA said --

It's just hard for me to imagine that this increase of 340,000 cubic, what is it, meters of additional waste can be an acceptable environmental addition to Hanford.

Panel Discussion (contd)

And it's my understanding that it's the EPA is called the Environmental Protection Agency.

Now, it's hard for me to understand, and I know you're just a representative of the agency, I'd like to have Christine Todd Whitman here to roast her butt, but you're a good substitute.

You know, can the EPA say, hey, this isn't acceptable?

MR. DENNIS FAULK: I wish we could. Unfortunately, we can't.

What we can do is we can look at their analysis and we can make a determination whether or not it's adequate or not.

The unfortunate situation with our authority there at Hanford, particularly in relation to this type of waste, is only after a release has occurred do we have the authority to do something about it.

That's not a good system.

Fortunately you do have the state, though, who, as you know, does have a lawsuit ongoing, in trying to invoke some authority.

You have to recognize for some of

these wastes Hanford may be the best place for it to come.

The flaw I see in the analysis, though, is there is not a compelling reason shown why waste needs to be transported there. I wish it did make that compelling reason.

The other thing you have to recognize, we have a lot of waste of our own we do need to take care of, we do need to disposal facilities, and we do need to have them built to the best standards possible.

And that's about the best answer I can give you.

MR. GARY PROCTOR: Thank you.

MR. DEE WILLIS: Who hasn't yet asked a question?

MR. WILL MOORE: May I ask? My name is Will Moore, and I would just like to know, in one of your presentations you had something called a T Plant, and the letter T Plant. What does that mean?

MR. MICHAEL COLLINS: Back in the '40s when they first started creating the weapons programs, they gave the reactors that the fuel went into and then the processing

Panel Discussion (contd)

facilities that the fuel was chemically -- the plutonium and the uranium was taken out, all of those plants and all those reactors got letter designations. And this one happened to get the letter T.

MR. GARY PROCTOR: So where are they?

MR. DEE WILLIS: Show them on the site where it is.

MR. MICHAEL COLLINS: This is not a great map. At Hanford, the way this was configured, eventually there were nine reactors along the river. All of them with different letter designations. And then in the middle of the site, in these places called the 200 Areas, there was five what are called big canyon processing buildings. The T Plant building is approximately right there.

MR. GARY PROCTOR: So like one for every letter of the alphabet, or more?

MR. MICHAEL COLLINS: I don't think they made it all the way through. And it wasn't just Hanford. It was Savannah River had letter designations, and they weren't the same designations. And I couldn't tell you

what theirs were.

MR. GERRY POLLET: There are scores, just in the 300 Area, there are 120 buildings. I mean, only the big ones have this type of designation.

So, when you think Hanford has I think 600 different buildings, you know. But the big ones had these letter designations.

MR. DEE WILLIS: Dr. Osborn.

DR. JOHN OSBORN: I want to address, my question to the preliminary comments, that the preferred alternative in the Final EIS would be essentially the same as in the draft.

MR. MICHAEL COLLINS: Uh-huh.

DR. JOHN OSBORN: I mean, generally, the purpose in doing these processes is to go back and to gather additional information and to improve the quality of the environmental decision making.

So I would like for you to address your comments that you made regarding the lack of change in the preferred alternative.

MR. MICHAEL COLLINS: Because the disposal facility that we are looking at,

Panel Discussion (contd)

the prefer alternative right now is a big lined RCRA compliant disposal facility.

I don't think anybody here would want something unlined, and I certainly don't think DOE is headed for not doing that.

I think DOE wants to build that big lined facility. So that's the basis for my expectation, that that preferred alternative will probably remain the same.

MR. DENNIS FAULK: If I could add to that, again we have a little bit different opinion, and we hope through our comments and what they hear through the public comments, again, we think if they actually do the analysis at the waste site boundary, which again we believe is required by our laws, they may do some mitigation efforts prior to placing waste into the facility. So that may be a change.

The facility itself may not change, but it might show that if they ended up grouting, putting things into cement, or other things, it may be more environmentally protective.

So those are some things that they

Panel Discussion (contd)

are going to be hearing from us in our comments. So, we are hoping it will be tweaked somewhat, based on public and regulatory comments.

MR. GERRY POLLET: I think the public interest community has a radically different view about the facilities.

We need to have lined facilities, but it has been pointed out tonight, liners aren't the be all end all obviously.

But number two, the size of the facility also are a huge question. Will they be sized to take offsite waste?

Number three, is it okay to put in to the same landfill with the same cover, same liner, chemical wastes and other radioactive wastes that interact very differently with the liners and covers? It.

Shouldn't be. And we believe that it is a gross repeat of past errors to do this huge facility, this huge mother of all landfills, mixing it all together. It would be a horrible mistake, we think.

MR. DEE WILLIS: This gentleman.

Panel Discussion (contd)

MR. GENE COHEN: Gene Cohen. I would like to get up to speed a little bit.

The three areas you discussed for nuclear repositories are all exotic desert areas, New Mexico, Nevada, Washington State, they are dry cactus type country. Then I heard the word Savannah River.

Am I to understand that the only places where you repository this type of thing are in dry, exotic desert spots out West where there is nobody, or is there dozens of choices?

MR. MICHAEL COLLINS: There are not dozens of choices. There are certain sites that can't have disposal at their own sites, so they picked alternate DOE sites, like Hanford, like Nevada test side, like Yucca Mountain, like New Mexico, for some people.

But there are still a lot of other places that are disposing of their own waste. Savannah River is. Oak Ridge in Tennessee. Fernald in Ohio. At places in Missouri. I don't recall what that's called. So it's not limited to those three sites.

MR. GENE COHEN: Are these very geologically small areas, acres, dozens of

acres, five miles, ten miles, versus Hanford is huge.

MR. MICHAEL COLLINS: No. Savannah River is a big site. Idaho, that's a big site. The Oak Ridge site in Tennessee is a big site.

MR. GENE COHEN: The last part is the climate issue. Is it something where you have to have dry climate with hard rock, and no rainfall? Is that the theory of this thing?

MR. MICHAEL COLLINS: In part. And it depends on the waste, as well. I mean, especially when you get to the high-level waste, and the transuranic waste, the stuff that's more dangerous, and the stuff that's more longer lived, you want greater isolation than would you need for other types of waste, and that's why you get these deep geologic repositories like the one that exists in New Mexico and the one that they are currently building in Nevada.

MR. DEE WILLIS: Let EPA respond.

MR. DENNIS FAULK: Yeah. My

Panel Discussion (contd)

observation would be, yes, they do build them in the West. And again mostly because it is dryer climate, it is environmentally more protective, and the population bases aren't as great.

And if you want to take a political bend on it, too, there's not as many political powers either.

But, again, in the long run, from an environmental protection standpoint, putting it in a dry environment is much more protective than putting it where you are having 80 to 100 inches in a groundwater table of 10 or 15 feet.

MR. GENE COHEN: And the very last thing is, in the war serial that we keep playing as a nation, am I to understand that this is an accumulating problem, that it is increasing and we are not stabilizing, we are adding more to this problem every year and it is going to be more and more of a problem, and no matter what we do, it is kind of like crime in the cities, it is going to get more and more like our budget, we go more into crime prevention and we spend more getting there? Is this a never ending thing?

MR. MICHAEL COLLINS: For DOE, and DOE's only part of the whole nuclear issue because we are not responsible for commercial generation, we are not responsible for a lot of the medical isotopes programs and those sort of things. But for DOE, we are creating more waste through research, through cleanup we end up creating more volume of waste, although not more radioactivity.

Plutonium production has ceased. It stopped in Hanford in 1986, I believe. So, as far as the weapons production type of stuff, at least for plutonium, that's done.

MR. GERRY POLLET: Well, that's not accurate. The refurbishment program of new nuclear warheads which is just restarted in the new plutonium pit facility, which the pit is the plutonium core of the bomb, produces large quantities, large quantities, when you are talking about transuranic waste, we are talking cubic meters, we are talking about large quantities of transuranic wastes that will continue to be produced.

And in Federal Court the state of Washington, and Heart of America Northwest and

Panel Discussion (contd)

PSR, Sierra Club, are in Federal Court, and Friday, last Friday we presented documents from the Department of Energy showing that the plans to import transuranic waste from DOE, it's approved by your top boss, the Assistant Secretary of Energy, her name's on it, says new production next to many of the sites that will ship transuranic waste to Hanford. And the plan says, approved by her, says Hanford will be designated to get these wastes.

That's what we're in for, unless we do something to stop it. And it is new production waste.

The cleanup of all the other sites ends as of, before 2018, if they stick to their agreements. And they don't predict breaking them in the EIS. So it's new production wastes after about 2016.

MR. MICHAEL COLLINS: My opinion is we're not saying anything that's majorly exclusive. What I said is we will be creating more waste, and what I said is the production of plutonium will cease.

That's not to say that existing plutonium won't be revised into this new

program.

MR. GERRY POLLET: But it implied that we weren't creating new transuranic waste from the weapons program.

MR. MICHAEL COLLINS: I clearly said we are creating new.

MR. DENNIS FAULK: I actually have a question for Mike, if I can. And it's something that Gerry pointed out, and when I read the EIS, I was wondering.

Why was the date 2046 picked, rather than 2035?

MR. MICHAEL COLLINS: Because right now the baselines that we are measuring things to is still 2046. It hasn't been shoved back I guess to 2035.

So our opinion is that's not going to change the amount of waste we have to deal with, it just changed the time frame that we have to deal with it in.

MR. DEE WILLIS: Are you guys finished discussing that one? Anybody else not asked a first question yet who wants to ask? Will? Will Moore.

MR. WILL MOORE: Well, my name

Panel Discussion (contd)

again is Will Moore, in case you need to know it.

I've got two questions. First of all, define deep geological repositories.

MR. MICHAEL COLLINS: Deep geologic repositories are essentially deep mines in hard rock or hard salt. Thousands of feet below the ground. The one in Yucca Mountain is what is in volcanic tuff. The one in New Mexico is in salt.

MR. WILL MOORE: Okay. And then those versus the vitrification, as far as how long it will last, you know, will the stuff leak out and all of that kind of stuff?

MR. MICHAEL COLLINS: I guess I am not sure what you are asking.

MR. WILL MOORE: Okay. The vitrification versus these deep geological pits, what's the protection? The geological pits are better or worse?

MR. GERRY POLLET: The vitrified high-level waste at Hanford was originally supposed to go to a deep geologic repository. All high-level waste was supposed to go to deep geologic repository where the

Congress said, Congress required high-level waste to be, quote, permanently isolated from the environment.

But the repository as proposed and planned in Yucca Mountain isn't big enough for all of the commercial spent nuclear fuel and the weapons glassified waste from Hanford.

MR. WILL MOORE: I guess I would like one more question. I am sorry. Oh, yeah. And how is the -- why is the lining considered even half -- How is it considered at all possible, you know, useful? How would the lining be considered adequate, I guess that's my question?

MR. MICHAEL COLLINS: Again, as Dennis said earlier, most of the impacts that you receive are during the operational phase when you are actually placing the waste and putting water on the -- What you do, is you put waste down, you put dirt on top to keep the waste from coming up, and then you put water on the dirt to make sure dust doesn't rise and stuff. So you get most of your impacts there.

At the end of the life of the trench, what happens is you put a cap over it

Panel Discussion (contd)

so that water doesn't get into it at all.

MR. WILL MOORE: I am sorry. But they are 30 year lining or 50 year lining. How can this possibly be adequate? I cannot comprehend.

MR. MICHAEL COLLINS: Well, first of all, if most of the impact is during the operational life, that liner is there for that portion. And then you rely on the cap after that. You don't rely on the liner.

MR. DEE WILLIS: Are you done? There's another gentlemen from DOE here. He wants to help, he wants to provide more answers.

MR. GEORGE SANDERS: I am George Sanders, and I work with Mike.

The liner, although we can argue about its length of time, its basic purpose is to protect the waste during an exposed period. So we don't get a lot of rain, what, seven, eight inches a year at Hanford. But any moisture is collected and doesn't go down in the soil. It is collected in a leachate collection system, and then that material is treated. Okay? That collection.

Panel Discussion (contd)

After it's lifetime you put a cap over it. And that's what hopefully slows down and prevents water from impacting the waste, or it slows it down, retards that. So its real value is collecting moisture during the period that the waste is exposed.

MR. DEE WILLIS: Gerry?

MR. GERRY POLLET: That's right. And as I pointed out with the transuranic wastes in these burial grounds, during the organizational period, essentially, since 1988, these things have leaked. That's not a very long period of time.

If you have liners and leachate collection, you learn that they've leaked long before it hits the groundwater.

Right now we don't know if it's leaked until it hits the groundwater. That's crazy.

And then the other thing is the law actually requires the leachate collection system and the liner to operate, maybe Dennis can help me, I think it is 30 years after closure, so that if you do see an impact, you go back in.

Panel Discussion (contd)

You know, that's as good as we do for planning during our lifetimes unfortunately. That's the sad truth of the answer, is we know that the liner will fail, and we can predict what will happen in the 100, 200, 500, 1,000 year time frame here.

You know, we were looking this morning at these dose graphs. You know, the trenches with the high-level waste put into it, essentially you have doses of like 900 millirem to Native American population using the site in a thousand years. Essentially that's somewhere, the standard would be five, and you've got 900.

MR. DEE WILLIS: Okay. Ms. Potts?

MS. THERESA POTTS: Well, I just come back to the concept of a half-life, and if you're not accurate about this, if you don't try to figure it out, how do you know when to cap the burial ground?

This doesn't seem very scientific to me. You're talking, say, a thousand years, but how do you know it's just a thousand years?

MR. MICHAEL COLLINS: Well, I

guess the way to answer that is it provides enough time for most of the radioactivity to go away. That's not to say all the radioactivity goes away obviously, because there is long half-life stuff.

But most of that long half-life stuff again is in the transuranic waste and the stuff that is not is in such low concentrations that it's not causing the impact. It's the higher radioactivity stuff that ends up causing the impact.

MR. DENNIS FAULK: I guess one other thing I want to say, and I think everyone in this room knows this, wastes at Hanford are going to be there for a very, very long time. Future generations will be required to take care of those.

So what we're trying to do now is stabilize them the best we can. Unfortunately we don't have the magic bullets to fix all these problems for future generations. They will be in long-term care, remedies will fail, they will have to redo work, and that's just the reality of things.

And I think probably everyone

recognizes that. And all we can do is try to be as protective as possible.

MR. DEE WILLIS: Amber Waldref has a question.

MS. AMBER WALDREF: I thought maybe what you were getting at, an inventory of the wastes that you are looking at coming in.

It seems to me that there is some, we didn't really know, you know, you said there is these wastes coming from other sites that are being cleaned up, and, you know, you have approximate cubic meters or feet, I am sorry, of, you know, how much it might be.

But what actually is going to be in those trucks, I guess, you know? I think that's the question. If you don't really know the types of radionuclides and chemicals that are coming in, how can you adequately prepare for them?

MR. MICHAEL COLLINS: Well, as far as the radionuclides coming here, we have a pretty good knowledge of what they are.

MS. AMBER WALDREF: Okay.

MR. MICHAEL COLLINS: And those are in the EIS.